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4. A method of manufacturing a ceramic honeycomb

structure according to claim 2, wherein said high-density energy beam is a laser beam.

5        5.    A method of manufacturing a ceramic honeycomb structure according to claim 3, wherein said high-density energy beam is a laser beam.

6.    A method of manufacturing a ceramic honeycomb structure in which a part of the cell ends located on the end surfaces of the ceramic honeycomb structure are closed, comprising the steps of:

10                fabricating a honeycomb structure body with all the cell ends open on the end surfaces;

              attaching a transparent or translucent resin film in such a manner as to cover one of the end surfaces of the honeycomb structure body;

15                forming through holes by radiating a high-density energy beam and thus melting or burning off the resin film portions located at the cell ends to be closed;

20                placing the honeycomb structure body on a base with the end surface having the resin film attached thereto up and the other end surface down;

              charging the masking powder by way of the through holes of the resin film and depositing the masking powder at the cell ends of the other end surface;

25                forming mask portions by hardening the deposited masking powder;

              dipping each end surface in a slurry containing an end surface closing material, and causing the slurry to enter the cell ends by way of the through holes at the end surface having the resin film attached thereto, and by way of openings lacking the mask portions at the end surface having the mask portions; and

30                hardening the slurry while at the same time removing the resin film and the mask portions.

35        7.    A method of manufacturing a ceramic honeycomb structure according to claim 6, wherein the positions to be irradiated with the high-density energy beam are

5           8.    A method of manufacturing a ceramic honeycomb  
          structure according to claim 6, wherein the high-density  
          energy beam is a laser beam.

10. A method of manufacturing a ceramic honeycomb structure according to claim 9, wherein said masking powder contains resin powder having a different melting point from said thermosetting resin powder.

12. A method of manufacturing a ceramic honeycomb structure according to claim 9, wherein said masking powder contains a fluidity improver for improving the fluidity at the time of charging the masking powder.

image processing means for acquiring the positional information by recognizing the positions of the cell ends visually through the film attached to said end surface;

control means for determining the positions of the high-density energy beam radiation and thereby operating said heat radiation means based on the positional information output from said image processing means.

15. A method of manufacturing a ceramic honeycomb structure in which a part of the cell ends at an end surface of the ceramic honeycomb structure is closed, wherein the process for closing a part of the cell ends of an end surface of a honeycomb structure body fabricated with the cell ends open to the end surface includes the steps of:

attaching a film to said end surface of the honeycomb structure body in such a manner as to cover at least a part of the cell ends;

dipping said end surface in a slurry containing an end surface closing material and thereby causing the slurry to enter the cell ends by way of the through holes; and

16. A method of manufacturing a ceramic honeycomb structure in which a part of the cell ends at an end surface thereof is closed, wherein the process of closing a part of the cell ends at an end surface of the honeycomb structure fabricated with open cell ends at the end surface includes the steps of:

forming through holes by thermally melting or burning off, based on the positional information,

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22. A method of manufacturing a ceramic honeycomb structure according to claim 16, wherein said through holes are formed in the film by bringing a heated jig

into contact with the film and melting or burning off the film.

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